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Alba 625

3010

Two waveband transistor radio

Introduction

Alba model 625 is a seven transistor portable radio housed in a black leathercloth covered case with silvered trim.

Wavebands covered are m.w. 187-561m (1605-535kHz) and l.w. 1200-2000m (250-150kHz), reception via an internal ferrite rod aerial assembly. There is no provision for an external aerial.

Sensitivity for 50mW output on each band is m.w. – 34μV/m and l.w. – 158μV/m.

Maximum audio power output is 460mW. This is handled by an 8Ω impedance loudspeaker which is muted when an earphone is in use via a normally closed miniature jack.

The 6V battery power supply is made up with four type SP2 1·5V cells.

Circuit alignment

Equipment required. – An a.m. signal generator, an r.f. coupling coil and 8Ω impedance output meter.

Access to all cores and trimmers is obtained on opening the case back. For all alignment operations, test signals should be fed via an r.f. coupling coil,

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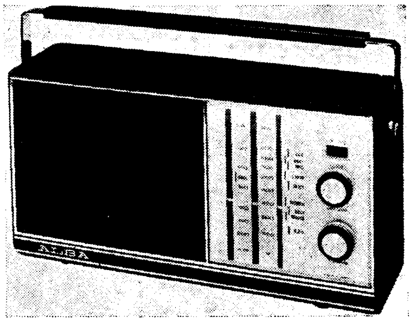
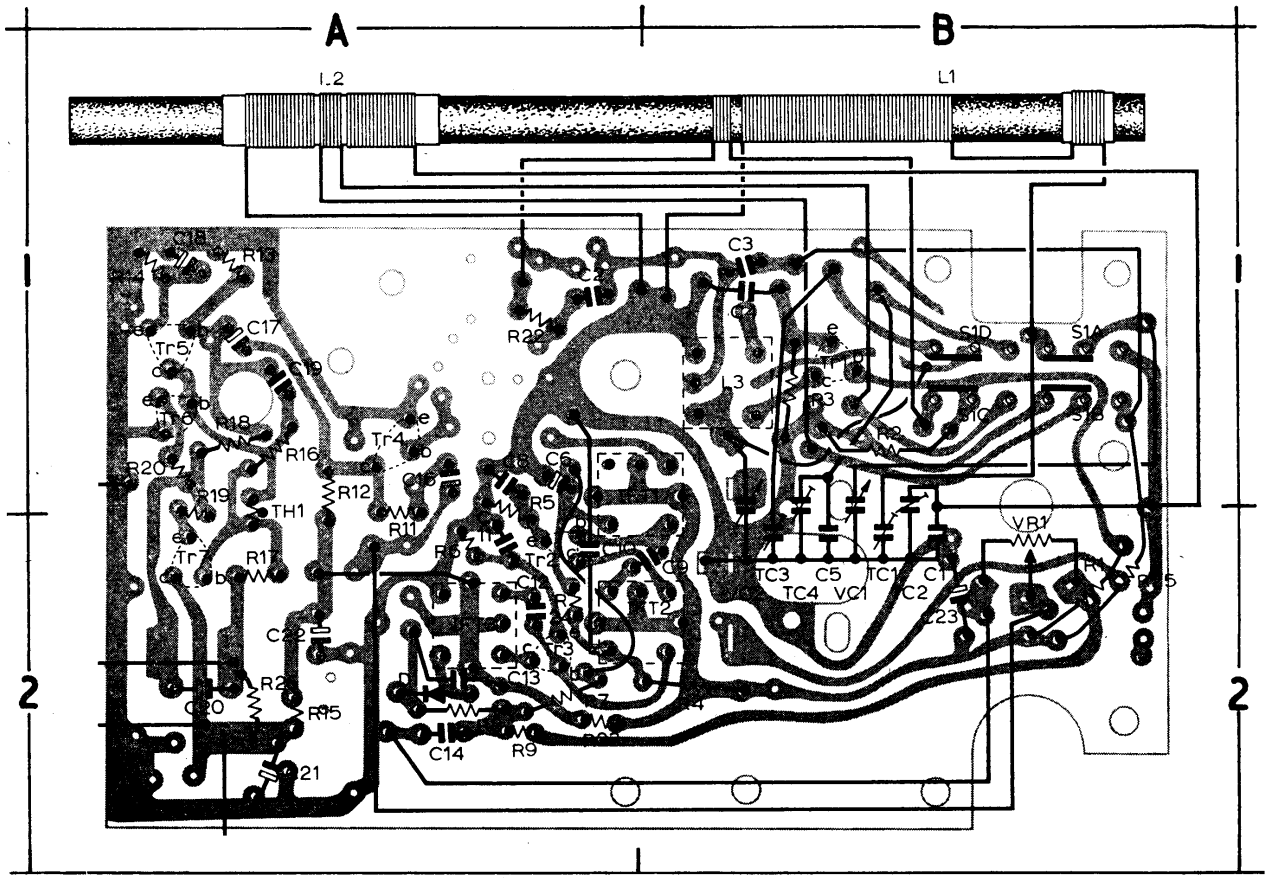


Alba, model 625, transistor radio makes full use of the available case space to accommodate an outsize loudspeaker.



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terminating the signal generator output, loosely coupled to internal ferrite rod aerial assembly. Terminate audio output meter in a miniature jack-plug and insert plug in earphone jack.

Rotate volume control to maximum and maintain an audio output of 50mW by suitably attenuating input signal as receiver sensitivity increases.

1. – Switch receiver to m.w. and rotate tuning gang to maximum capacitance. Feed in a 470kHz a.m. signal and adjust **IFT3, IFT2** and **IFT1** in that order for maximum output.

2. – Change signal generator frequency to 510kHz a.m. and adjust **L3** for maximum output.

3. – Rotate tuning gang to minimum capacitance and feed in a 1640kHz a.m. signal. Adjust **TC3** for maximum output.

4. – Tune receiver to 500m and feed in a 600kHz a.m. signal. Adjust position of **L1** on ferrite rod for maximum output.

5. – Retune receiver to 200m and feed in a 1500kHz a.m. signal. Adjust **TC1** for maximum output.

6. – Repeat operations 2 to 5 for optimum results.

7. – Switch receiver to l.w. and rotate tuning gang to minimum capacitance. Feed in a 256kHz a.m. signal and adjust **TC4** for maximum output.

8. – Tune receiver to 180m and feed in a 166·6kHz a.m. signal. Adjust position of **L2** on ferrite rod for maximum output.

9. – Tune receiver to 120m and feed in a 250kHz a.m. signal. Adjust **TC2** for maximum output.

10. – Repeat operations 7 to 9 for optimum results. Disconnect test equipment.

Dismantling

Unclip and fold up case back for access to battery and component side of circuit panel.

In order to gain access to foil side of panel and drive cord assembly remove cells and battery tube then pull off knobs. Unscrew and remove the four Phillips head screws securing circuit panel to case. The panel assembly may now be withdrawn.

Transistor analysis

Transistor voltages given in the table were obtained from information supplied by the manufacturers. They are all negative with respect to the positive line and were measured under quiescent conditions.

Transistor table

Transistor	Emitter (V)	Base (V)	Collector (V)
TR1 2SA202	0·5	0·6	4·2
TR2 2SA202	0·25	0·35	4·2
TR3 2SA203	0·5	0·55	4·3
TR4 2SB185	0	0·15	3·75
TR5 2SB185	0·25	0·35	2·7
TR6 2SD187	2·9	2·7	0
TR7 2SB187	3·1	3·3	6·0

Quiescent current 16mA.

Resistors

R1	33kΩ	B2
R2	6·8kΩ	B1
R3	2·7kΩ	B1
R4	56kΩ	B2
R5	680Ω	A2
R6	560Ω	A2
R7	5·6kΩ	A2
R8	680Ω	A2
R9	1·5kΩ	A2
R11	100kΩ	A2
R12	5·6kΩ	A2
R13	5·6kΩ	A1
R14	56Ω	A1
R15	820Ω	A2
R16	220Ω	A1
R17	680Ω	A2
R18	27kΩ	A1
R19	1Ω	A2
R20	1Ω	A2
R22	82Ω	A1
R23	120Ω	A2
R24	5·6kΩ	A2
R25	39kΩ	B2
R26	180Ω	A2
VR1	10kΩ	B2

Capacitors

C1	30pF	B2
C2	4000pF	A1
C3	7500pF	B1
C4	0·01µF	B1
C5	110pF	B2
C6	10µF	A2
C8	0·04µF	A2
C9	10pF	B2
C10	0·02µF	A2
C11	0·04µF	A2
C12	12pF	A2
C13	0·01µF	A2
C14	0·02µF	A2
C15†	0·04µF	—
C16	4·7µF	A2
C17	4·7µF	A1
C18	35µF	A1
C19	1500pF	A1
C20	220µF	A2
C21	220µF	A2
C22	220µF	A2
C23	33µF	B2
TC1	—	B1
TC2	—	B2
TC3	—	B2
TC4	—	B2
VC1	—	B2
VC2	—	B2

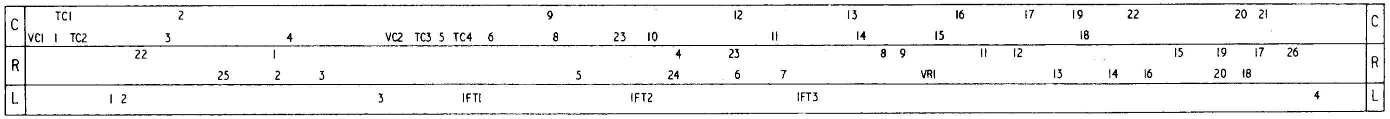
Inductors

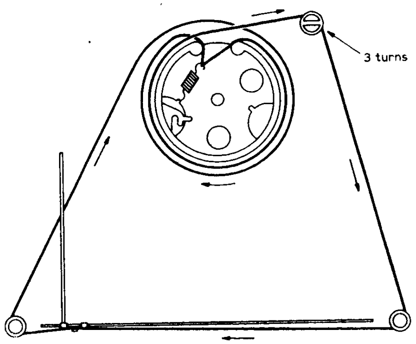
L1	—	B1
L2	—	A1
L3	—	B1
L4	4Ω	—
IFT1	—	A1
IFT2	—	A2
IFT3	—	A2

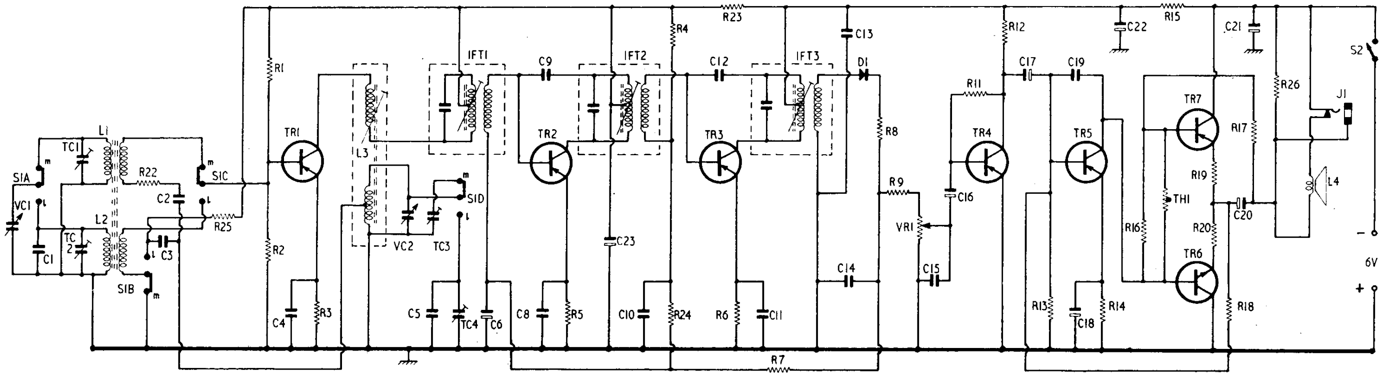
Miscellaneous

D1	IS188	A2
TH1	SDT20	A2

† *May not be fitted.*


C
TC1 2 9 12 13 16 17 19 22 20 21
VC1 1 TC2 3 4 VC2 TC3 5 TC4 6 8 23 10 11 14 15 18
R
22 1 4 23 8 9 11 12 15 19 17 26
25 2 3 5 24 6 7 VR1 13 14 16 20 18
L
1 2 3 IFT1 IFT2 IFT3 4





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